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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/737,271	12/15/2003	Adrian Wing Fai Lo	890050.450	6185

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EXAMINER

KIM, ELLEN E

ART UNIT PAPER NUMBER

2874

DATE MAILED: 12/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/737,271	<b>Applicant(s)</b> LO ET AL.	
	<b>Examiner</b> Ellen Kim	<b>Art Unit</b> 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/15/03, 4/25/05</u> | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claims 1, are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa et al [USPAT 6,332,719, Applicant's submitted prior art].**

Nishikawa et al disclose an optical module comprising:

A die pad 155 [fig. 15c]

At least one platform body [110, 120] on the die pad;

A transceiver unit mounted on the platform body; and

An encapsulation member 156, which covers at least part of the platform body and a part of the die pad;

Wherein each transceiver unit includes

An optical fiber 130 fixed on the platform;

A receiving photo-diode 126 mounted that is on the platform body 110, 120 and transforms optical signals received through the optical fiber 130 into electric signals;

A light emitter 111 that is mounted on the platform body and generates optical signal to be transmitted through the optical fiber;

A filter 124 provided so that the optical fiber 130 is divided at a position between the receiving photo-diode and the light emitter; and

A ferrule 131 [fig. 10a, 10b] in which the end of the optical fiber 130 is inserted.

Nishikawa et al disclose every aspect of claimed invention except for the two or more transceiver units mounted on the platform body.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have more than one transceiver unit, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

It is clear that this plurality of transceiver unit would improve the device for having faster signal transmitting and receiving by sending and receiving plurality of optical signals at the same time.

In re claim 3, Nishikawa et al disclose every aspect of claimed invention except for the one or more ICs, which receive the output signals from the receiving photo-diode and process the output signals and/or drive the light emitter.

It would have been obvious to the ordinary skilled person in the art at the time the invention was made to modify Nishikawa et al device to include for the one or more ICs, which receive the output signals from the receiving photo-diode and process the output signals and/or drive the light emitter for the purpose of better connection between the IC and the receiving photo-diode. It is clear that the electrical connection on the same platform between the IC and the receiving photo-diode is better than on different platforms.

In re claim 4, Nishikawa et al disclose every aspect of claimed invention except for the PD platform body and the LE platform body.

It would have been obvious to the ordinary skilled person in the art at the time the invention was made to modify Nishikawa et al device to include the PD platform body and the LE platform body for the purpose of adjusting the height of the PD and LE when a different diameter of optical fiber is used.

In re claim 5, Nishikawa et al show a monitoring photodiode 112.

In re claims 6 and 8, Nishikawa et al do not show the parallel and series arrangement.

It would have been obvious to the ordinary skilled person in the art at the time the invention was made to modify Nishikawa et al device to have transceivers arranged in parallel for the purpose of transmitting plurality of signals at the time.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have transceivers arranged in series, since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

In re claim 9, as illustrated in fig. 15 C, the platform 120 is separately provided for PD and transceiver.

In re claims 10-12, Nishikawa et al do not show the filter, receiving photo-diode, light emitter, and monitoring photo-diode, which are common to the transceiver units.

It would have been obvious to the ordinary skilled person in the art at the time the invention was made to modify Nishikawa et al device to include the filter, receiving photo-diode, light emitter, and monitoring photo-diode, which are common to the transceiver units for the purpose of simpler manufacturing process of the device.

In re claim 14, Nishikawa et al inherently show most of the claimed method steps including an LE platform 110, a PD platform 120, and a die pad 155 [fig. 15c]. As discussed above, Nishikawa et al disclose every aspect of claimed invention except for the two or more optical fibers. The reason for modification is greatly discussed above in the reasons for rejection of claim 1.

In re claim 15, the "screening test" is not clearly defined in the claim. For the examination purpose, any observation is considered as a screening test. It is clear that

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each manufacturing step may be done after certain observation by ordinary person in the art.

**Claims 2 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa et al as applied to claim 1 above, and further in view of Goto [USPAT 6,075,911].**

Nishikawa et al disclose every aspect of claimed invention except for the silicon gel, which covers at least a part of the optical fiber, the receiving photo-diode, the light emitter or the filter efficiently.

Goto discloses an optical coupling system using silicon gel for the purpose of high efficiency and high productivity of the optical coupling module [column 1, line 65-column 2, line 4].

It would have been obvious to the ordinary skilled person in the art at the time the invention was made to modify Nishikawa et al device to include the silicon gel as shown in Goto's reference for the purpose of high efficiency and high productivity of the optical coupling module.

### ***Conclusion***

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

For all official patent application related correspondence for organizations reporting to the Commissioner of Patents:

- Correspondence that is transmitted by facsimile must be directed to the central facsimile number, (703) 872-9306.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Further references of interest are cited on Form PLO-892, which is attachment to this office action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellen Kim whose telephone number is (571) 272-2349. The examiner can normally be reached on Monday through Thursday.

Ellen E. Kim



Primary Examiner

December 7, 2005/EK